



48. **Sales** Suppose that you are selling sweatshirts for a class fund-raiser. The wholesaler charges you \$8 for each sweatshirt.

a. You charge \$16 for each sweatshirt. Find the percent of increase.

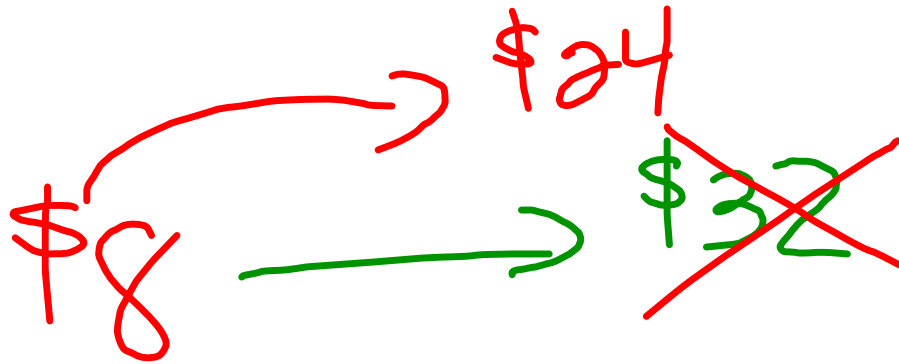
b. Generalize your answer to part (a). Doubling a price is the same as a 100% percent of increase.

c. After the fund-raiser is over, you reduce the price on the remaining sweatshirts to \$8. Find the percent of decrease.

d. Generalize your answer to part (c). Cutting a price in half is the same as a 50% percent of decrease.

$$\frac{x}{100} = \frac{8}{8}$$

$$x = 100\% \text{ increase}$$



$$\frac{200}{100} = \frac{X}{8}$$

amount to add
~~charge~~
to the original

$$100X = 1600$$
$$X = \textcircled{\$16}$$

\$15
\$45

$$\frac{x}{100} = \frac{30}{15}$$

$$15x = 3000$$

200%
increase

$$x = 200\%$$

\$ 8 \rightarrow \$ 32

$$\frac{x}{100} = \frac{\$24}{\$8}$$

$$8x = 2400$$

$$x = 300\%$$

\$8 → \$24

$$\frac{x}{100} = \frac{16}{8}$$

$$8x = 1600$$

$$x = 200\%$$

Were reduce
\$16 $\xrightarrow{\text{to}}$ \$8

$$\frac{x}{100} = \frac{8}{16}$$

$$x = 50\%$$

\$20 $\xrightarrow[\text{to}]{\text{reduce}}$ \$10

$$\frac{X}{100} = \frac{10}{20}$$

$$X = 50\%$$

\$15 \rightarrow \$30

$$\frac{x}{100} = \frac{15}{15}$$

$$x = 100\%$$

$$\text{\$}13.75 \xrightarrow[\text{it}]{\text{double}} \text{\$}27.50$$

$$\frac{X}{100} = \frac{13.75}{13.75}$$

$$X = 100\%$$



Timer - persistence.swf